DOCUMENT RESUME

ED 449 454 CG 030 714

AUTHOR Ferrara, F. Felicia
TITLE A Structural Equation Model To Investigate the Delivery of Child Sex Abuse Services as a Consequence of Attitude, Locus of Control, and the Work Setting.
PUB DATE 1998-00-00
NOTE 19p.; Paper presented at the Annual Meeting of the American Educational Research Association (San Diego, CA, April 13-17, 1998).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE EDRS Price MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Child Abuse; *Children; *Counselor Attitudes; *Counselor Client Relationship; Elementary Secondary Education; Inhibition; Models; National Surveys; *Psychological Patterns; School Psychologists; *Sexual Abuse; Stress Variables
IDENTIFIERS *Job Stress

ABSTRACT

A structural equation model was proposed to explore influencing factors that may contribute to school psychologists' role inhibition versus progressive pursuits towards the delivery of child sex abuse services. Three work-related variables (attitude, locus of control, work-setting demands) were examined to assess their impact on the initiatives that a school psychologist might take towards students in need. A national sample of 200 school psychologists were surveyed using the Child Sex Abuse Attitude Scale, the work locus of control scale, and questions pertaining to work setting demands. Four comparative models were analyzed: (1) a priori model indicating 3 exogenous and 2 endogenous variables; (2) alternate model proposing reciprocal relationships; (3) a sensitivity model and (4) the null model. The models were examined for the influencing variables that may contribute to school psychologists' progressive pursuit versus role inhibition when dealing with the emotional laden issues of child sexual abuse. The a priori model generated the best model fit. Implications for developing curriculum for professional training are discussed. (Contains 1 figure, 1 table, and 46 references.) (Author/JDM)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 449 454

A Structural Equation Model To Investigate the Delivery of Child Sex Abuse Services as a Consequence of Attitude, Locus of Control, and The Work Setting

by

F. Felicia Ferrara

University of Sarasota

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

2A

Paper presented at the Annual Meeting of the American Educational Research Association, San Diego, CA, April 13-17, 1998

CG030714

BEST COPY AVAILABLE

Abstract

A structural equation model (SEM) was proposed to explore influencing factors that may contribute to School Psychologist's *role inhibition* versus *progressive pursuit*, toward the delivery of child sex abuse services. Three work-related variables, attitude, locus of control, and work setting demands, were examined to assess their impact on the initiative that a school psychologist might take toward students in need. A national sample of 200 school psychologists was surveyed resulting in an overall 65% (129) return rate. Survey measures included, (a) the Child Sex Abuse Attitude Scale (CSAAS), (b) work locus of control scale (Spector, 1988), and (c) questions pertaining to work setting demands. SEM method of analysis was conducted using LISREL 8 software to analyze four comparative models; (a) a priori model indicating 3 exogenous and 2 endogenous variables, (b) an alternate model proposing reciprocal relationships, (c) a sensitivity model with start values of .8 (Bollen, 1989; Byrne, 1989), and (d) the null model. The a priori model generated the best model fit based on several indices: $\chi^2/df = 1.08$, a NNFI of .96, and subordinate parameter estimates. Output generated from the psychometric analysis was examined in terms of influencing variables that may contribute to school psychologists' *progressive pursuit* versus *role inhibition* when dealing with the emotionally laden issue of CSA. Implications for developing curriculum for professional training will be discussed.

The National Resource center on Child Sexual Abuse (1996) reports that 63% of females and 34% of males will experience child sex abuse (CSA) by adulthood. While these figures represent a larger proportion of incident rate than for most social-emotional difficulties attributed to youth, a deficit of service availability funding sources, professional training programs and specialized service programs still exists. A tendency to minimize, deny, and withdraw from the topic of sexual abuse inflicted on children prevails across the nation. Yet, short and long term residual effects of the abuse can plaque a child throughout his or her life, seriously impacting emotional well-being and the development of positive self-esteem. While mental health professionals attest to the wide range of maladaptive behaviors that can emerge when sexual abuse is experienced, the availability of effective treatment programs is disparagingly deficit. Researchers propose that mental health worker's attitude toward CSA strongly influences the delivery of CSA services. An in-depth investigation of professional's attitude on the topic of CSA was recommended to explore potential influencing factors that may impact the delivery of services to students in need (Batchelor, Dean, Gridley & Batchelor, 1990; Johnson Owens, Dewey & Eisenberg,1990;Tharinger et al, 1989; Vevier & Tharinger, 1986).

The purpose of this study was to explore factors that may influence the school psychologists' involvement in the delivery of CSA services, as recommended by earlier researchers. Theoretical perspectives for developing a structural equation model (SEM) leaned heavily on Festinger's (1964) cognitive dissonance theory and subsequent attitude development theory. A multivariate analysis was conducted using a structural equation model (SEM) method of analysis based on a series of observed and latent variables hypothesized to influence attitude toward the delivery of CSA services: Attitude, Work Locus of Control, and work setting (see Figure 1).

Professionals believe current figures are an underestimation of the frequency rate of CSA incidents, due to several obstacles to collecting accurate data. First, the lack of a federal reporting system and nonstandardized methods of data collection within states and across agencies distorts the accuracy of statistics quoted. Second, CSA statistics may be underestimated due to withholding of reporting and lack of disclosure due to fear, coercion, or alternate repressive techniques used by perpetrators (Vevier & Tharinger, 1986). Third, the definition of CSA varies from state to state, ranging from an obscene phone call to actual penetration with a sexual organ. And finally, a lack of agreement about the definition of a child may range from age 12 to 18 years of age as set forth in state legislation. Consequently, what is considered an abusive act in one state, may be considered insignificant in another state.

Notwithstanding the above inconsistencies in reporting procedures, CSA is on the rise from previous years. The increased incident rate of CSA has forced both public and private sectors to investigate numerous ways in which to initiate prevention and intervention programs for children and adolescents in the schools (Broadhurst, 1986; Hazzard & Rupp, 1983; Hitchcock & Young, 1986). However, several obstacles or barriers need to be considered. Providing services related to any kind of sexual programs in the schools is traditionally difficult. Even the endorsement of a basic sex education curriculum in the schools provoked controversial debates. The same conservative approach toward sexual topics prevails today (Yarber & Pavese, 1985). In one recent case, the Roman Catholic Diocese in Brooklyn, New York refused to lease two parochial schools to New York city due to disagreement about their sex education curriculum content (Goldman, 1991).

Given the reticence of professionals to address any sexual topic in the schools along with the discrepancy in documentation of the existence of CSA as a critical problem, effective delivery of CSA services in the schools becomes increasingly controversial (Gilgun & Gordon, 1985; Yarber & Pavese, 1985). While some protest that such sensitive matters should only be handled outside the schools, others demand that the schools be the provider of prevention and intervention programs for sexually assaulted students. Professionals from many disciplines have acknowledged short term and long term effects of an abusive experience on children, both emotionally and academically (Batchelor, Dean, Gridley & Batchelor, 1990; Byers, 1990; Tharinger, Russian, & Robinson, 1989). Instances of decreased grades, poor attendance, withdrawal, disruptions, sexualized behaviors and intense emotional reactions are often viewed in the schools (Slater & Gallagher, 1989). In addition, professionals note an increased incident rate of CSA among the more vulnerable special needs student with estimates of abusive acts as

Incidence of Child Sex Abuse indicated that the average child at the time of disclosure is nine years of age, which clearly places the child with access to the school environment for intervention services.

It should not be surprising then, that mental health professionals advocate for increased school involvement as the need for expert services continues to outgrow existing interventions (Gilgun & Gordon, 1985; O'Day & Shores, 1983; Repucci & Herman, 1991). While a multidisciplinary approach is recommended, it is often the school psychologist who is in the best position to act as a catalyst for programs in the schools. In addition to providing direct student services, the school psychologist can provide consultation services such as (a) collaboration with community resources, (b) consultation with staff and faculty, and (c) the development of multidisciplinary teams (Batchelor et al., 1990; Bross, Krugman, Lenherr, Rosenberg & Schmidt, 1988; Kleemier, 1988; Krivacski, 1988; Myers, Jones, Thomas & Semlar, 1986; Tharinger et al., 1989).

The above indicators presuppose that all school psychologists are ready, willing, and able to proceed with CSA case involvement. However, alternate studies indicate that some school psychologists experience difficulties in self-efficacy in dealing with CSA issues and feel a need for specialized training on the subject (Batchelor et al., 1990; Tharinger et al., 1989). Additionally, a lack of formalized training on how to proceed with such sensitive issues as familial incest and its ramifications on the family unit has been reported. While all school psychologists should be trained about the legal and ethical requirements for mandated reporting of child abuse, intimation of the potentially complex legal repercussions of 'eye witness reporting' additionally inhibit the school psychologist's role in delivery of CSA services (Jenkins, 1986; Johnson, Owens, Glynn, Dewey & Eisenberg, 1990).

Research Questions

1. Does attitude toward CSA issues, as measured by the CSAAS, directly influence the school psychologist's intention to actively pursue involvement in the delivery of CSA services?

2. Does a predisposition toward internal Locus of Control directly influence the school psychologist's intention toward involvement in the delivery of CSA services?

3. Do work setting demands and/or restrictions, influence the school psychologist's intention to actively pursue involvement in CSA programs and interventions?

4. Is the school psychologist's involvement in the delivery of CSA services influenced by Attitude, Locus of Control, and Work Setting variables, and are the independent latent factors correlated among themselves?

Definitions

Role Inhibition: Role inhibition is defined as the inability or reluctance to develop, administer, deliver or evaluate CSA services within the schools.

Progressive Pursuit: Progressive pursuit is the willingness to develop, administer, deliver or evaluate CSA services within the schools.

Cognitive Dissonance: Cognitive dissonance is a psychological or emotional state derived from inconsistency among the elements of attitude regarding conflict with an issue, object, or event (Festinger, 1964).

Cognitive Harmony: Cognitive harmony exists when cognitive and emotional elements of an individual's attitude are in congurent.

Attitude: Attitude is comprised of four elements: Cognition, Value, Affect, and Behavior (Festinger, 1964).

Cognitive Dissonance and Underlying Attitude

Cognitive dissonance theory, an out growth of the social learning theory, is addressed here for the following reasons. Research indicates that *emotionally laden* subject matter can provoke difficulties in value dispersion and cognitive processing of that information, particularly if the individual is under *forced compliance* to accept that information (Festiner, 1964; Rosenberg et al., 1969; Wickland & Brehm, 1979). While the state of CD is essentially psychological in nature, physiological and emotional arousal can occur with varying degrees of magnitude, dependent upon the intensity of the cognitive elements in conflict. Dissonance is said to occur when inconsistency exists among the elements of attitude, (cognition, value, affect, and behavior). Intervening cognitive elements can lead to resistance to change, if in fact, that new cognitive element is in conflict with preexisting beliefs, values, or affect (Suedfeld, 1971). To reduce this discomfort and achieve cognitive harmony, an individual may emit distancing behaviors which further align with Festinger's concept that one's overt behavior is indicative of one's cognitive stance on the issue at hand (Morris, 1990).

Similar inconsistencies in cognitive processing of CSA was reported among school psychologists (Vevier & Tharinger, 1986; Tharinger et al., 1989). CSA issues often involve emotionally laden topics and forced compliance to report, cognitive dissonance may occur among school psychologist and interfere with job task fulfillment. If the school psychologist is confronted with a CSA case but finds talking about sexual matters repulsive or distasteful, a state of CD will occur until some form of relief can restore cognitive harmony. Past survey reveal feeling of lack of self-efficacy to deal with CSA issues (cognition), reticence to get involved in family matters (value), disgust or repulsion to deal with CSA (affect), and finally, withdrawal or denial of its existence (behavior). Similarly, behaviors attributed to one's reactions while in a state of dissonance, rationalizing, denial, and minimizing the importance are often reported among school psychologists as well as other mental health professionals. For instance, statements such as, "It's not my responsibility to report, we have social workers for that', CSA is not really a problem in this school', and 'CSA is not as bad as people make it up to be', are all too often heard from professionals behind the school walls.

Cognitive harmony is a direct psychological and emotional response to inconsistency among and individual's attitudinal elements, which is conceptually described as a four factor construct consisting of; (a) overt behavior (b) personal beliefs, (c) cognition, and (d) affect (Festinger,1964; Rosenberg et al., 1969). The Child Sex Abuse Attitude Scale (CSAAS), was developed in earlier research based on Festinger's CD theory and theory of attitude development (Ferrara, 1996). The CSAAS consists of four subscales representing four elements of attitude as noted above: Cognition, Affect, Value, and Behavior and will be used for this study to explore attitudinal influences, which may or may not be representative of the state of CD.

Locus of Control

A second contributing factor that may influence involvement in CSA issues is a perceived sense of locus of control in the work setting. Locus of Control (LOC) was conceptually defined by Rotter (1964) as the sense of control one has over his or her self or the environment. An internally oriented LOC represents that an individual believes he or she can control events within their environment, therefore pursue self-initiated activities. Whereas, an externally oriented LOC proposes that individuals believe that environmental situations control his or her behaviors, therefore he or she may not initiate behaviors unless external influences dictate otherwise.

Feelings of internal versus external locus of control have been stated to have an impact on the role one assumes in the work setting (Hall, 1990; Rucker & King, 1980; Spector, 1988; Walkley, 1979). Locus of control has been repeatedly looked at as an intervening variable contributing to how an individual functions within a larger system. Rucker and King (1980) looked at reactions to leadership style as a function of locus of control. Findings indicated that the individual with perceived internal LOC enjoyed a setting of authoritative leadership, whereby, a sense of initiative and autonomy could be expressed in the work setting. In a study of LOC as a moderator of the relationship between perceived role ambiguity vs. repeated work strains, significant findings indicated that role

ambiguity within the work setting, if clarified, may increase internal LOC, thereby reducing work strains and increasing activity level (Hall, 1990).

Spector (1988) modified Rotter's scale of LOC to accommodate work setting issues, permission was granted for its use in this study. Theoretically, it is proposed that an internal orientation toward LOC would take more initiative in the workplace to complete tasks based on internal values rather than directives from others. Whereas, an externally directed individual may wait until a mandate came from a supervisor or, even if the individual wanted to act one way, they might acquiescence to external influences or social norms under pressure from confrontational co-workers, peers, and colleagues. Within the work setting, an employee with an internal LOC may take be self-directed toward work initiatives, whereas, an employee with an external LOC would look toward supervisors or policy demands to stimulate them to perform particular tasks (Rucker & King, 1980; Spector, 1988). Internal LOC of control is said to be enhanced when an individual is older, well educated, and has had experience in the respective professional field.

Work Setting Variables

Within the context of any work setting, job responsibilities and demands may differ from the employee's intentions to perform particular tasks. For example, although a school psychologist may have intentions to be involved in the delivery of CSA services, current job demands prohibit that involvement. Obstacles such as (a) lack of administrative support, (b) parent resistance or support, (c) conflicting job responsibilities, (d) student case load, or (e) the availability of CSA services performed by ancillary personnel, are confounding variables that can inhibit involvement in CSA service delivery, but are not necessarily indicative of a negative attitude toward CSA.

Method

Subjects

A random sample of 200 school psychologists was acquired from the mailing list of the National Association of School Psychologists (NASP). Because a first mailing resulted in a small sample size (n=84), a second mailing was included (n=15), and a third mailing yielded additional (n=30) with a final return rate of 65% or N=129. Researchers encourage conducting a power analysis to obtain an appropriate sample size for conducting SEM, which was done using SAS software as recommended by Haynam, Govindarajulu, and Leone (as cited in Bollen, 1989; Saris & Satorra, & Sorboom, 1987).

Measurement

Four measurement instruments were used to complete the survey including (a) a demographic survey, (b) The Child Sex Abuse Attitude Survey (CSAAS), (c) a work locus of control scale, and (d) five items relating to the work setting. Demographic survey items included (a) age, (b) education, (c) professional experience, (d) school district type, (e) time spent on job-related tasks, and (f) experience with CSA issues. The CSAAS was developed as part of an ongoing research endeavor concerning CSA (Ferrara, 1996) and the work locus of control scale was developed by Spector (1988) and used with permission. The work setting variables items were included to address potential confounding variables that may influence the level of involvement with CSA issues.

The CSAAS is a 24 item survey developed by the researcher (Ferrara, 1996; Ferrara,1998). A Likert response scale was used ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The original 75 item scale was shared with professional school psychologists in two sampling pools. The first sample consisted of 15 school psychologists employed in a suburban South Florida school system, and the second sample consisted of a National sample of 120 school psychologist registered as NASP members. Internal consistency of the survey based on the National sample of school psychologists indicted a .88 alpha level of the total test with the subscales ranging from .66 to .80 in terms of alpha coefficients. Items were eliminated based on rank-order of correlations with total test

and subjective comments made by respondents, such as, too blatant, unessential, and so on. The final retained 24 items used in this study represent four subscales: Cognition, Values, Affect, and Behavior.

Work Locus of Control is a 16 item scale modified (Spector, 1988) to address work related items. A six point Likert response format ranged from 1 (disagree very much) to 6 (agree very much). The instrument is intended to measure an individual's perception of control in the work setting. Examples of items that address work-related issues are as follows: Item 1. *A job is what you make of it*; Item 9. *Promotions are usually a matter of good fortune*. The scale reports findings as high scores represent an internal LOC and low scores represent an external LOC. The premise being that an internal LOC individual may take more initiative in the work setting.

Work Setting variable items were examined using a Likert response format ranging from 1 (strongly disagree) to 5 (strongly agree). Items addressed (a) administrative support, (b) parental and community support to provide CSA services (c) conflicting job responsibilities, (d) time demands, and (e) use of ancillary personnel to deal with CSA issues in the schools.

Method of Analysis

The hypothesized SEM model consists of three independent variables (KSIs): Attitude, Locus of Control(LOC), and Work Setting Variables (WS), two dependent variables (ETAs) Intentions and Progressive Pursuit, nine independent measured indicators (X), and six dependent measured indicators (Y), as noted in Figure 1. The optimal goal of the analysis would be to have the sample matrix S equal the population matrix Σ. This is done by means of decomposing the covariances into model parameters within a full SEM model the Σ covariance matrix is decomposed into matrices of X and Y (Bollen, 1989; Hayduk, 1987). A correlation matrix of the input variables was examined representing standardized values of raw data, thus enabling calculation of RMR as another index of fit. Maximum likelihood method of analysis was used to estimate fit statistics which generated the chi square index of inferential significance. Maximum likelihood is an iterative process that generates parsimonious estimates representing lowest discrepancies between the sample and population parameter estimates, LISREL optimizes calculation of the estimates. Ideally, one would want to have the iterative process stop when global maximization is obtained. If the iterative process stops too early one can have localized minimization without obtaining global minimization, which results in biased parameter estimates and does not allow for approximation of the sample to truly represent the population estimates (Bollen, 1989).

Overall Indices of Fit

Four SEM models were calculated as follows; (a) a priori hypothesized model (Mcorr), (b) the null model (Mnull), (c) an alternate model with reciprocal influences between ETA1 and ETA2 and direct KSI influences only on ETA1, and (d) for sensitivity analysis, a model with lower start values was computed (M.8) (Bollen, 1989; Byrne, 1989).

On first analysis, it was identified that the a priori hypothesized model represented a good fit with χ^2 (82, N = 129) = 88.90, $p > .28$ (see Table 1). This finding represented chi square at the non-significant level of acceptance, thereby establishing Mcorr, the better fitting model as compared the Mnull, Malt, and M.8. Although M.8 did yield a similar chi square estimate, further analysis of parameter estimates and total amount of variance accounted for rendered Mcorr, the more plausible model for this data. Because the parameter estimates between models of different start values did vary, on subsequent analyses, one may wish to increase N, which may stabilize parameters while increasing power (Byrne, 1989). The negative side of that strategy may be that by increasing N one may find a significant chi square value simply by chance, furthermore, small N's are known to derive unstable estimates (Bollen,1989; Hayduk, 1987), which may be an alternate explanation for these findings.

Because chi square is sensitive to nonnormality, it may be wise to evaluate other indices of fit as well (Bentler, 1990). Researchers advocate a sequence of models to test for acceptable fit beginning with (a) a structural model, (b) a measurement model, (c) the structural relations model that leaves constraints on

covariances of KSIs (PHI estimates) among latent variables, and finally, (d) the reciprocal relationships of the ETAs. Upon inspection of indices of fit, one may be influenced toward the correlated latent variable model due to estimates of fit. Similarly, the null model may look plausible but it only considers the measurement variables without considering the structural portion of the model, therefore becomes strictly a measurement model (Bentler & Bonnett, 1980). Following this pattern of comparison, Figure 1 depicts the differences in overall fit statistics across the four models proposed during the current study. The most plausible model, based on best fit indexes and variance accounted for, was the a priori hypothesized model theoretically driven, yet empirically plausible. The most feasible alternate model chosen here, added one parameter by estimating a reciprocal relationship between 'progressive pursuit', (ETA1) and 'intentions' (ETA1). The model was developed partly from theory. For instance, if CSA services were progressively pursued at the school, the mere fact that CSA services are present in the work environment may, in turn, influence additional intentions toward involvement in the delivery of CSA services, thus forming a reciprocal influence between ETA1 and ETA2.

The RMR index of fit at .064 for the Mcorr, is slightly larger than the idealized .05 or lower value for RMR. Based on this index one would estimate that on the average, 94% of the variance in this model was explained by the variables. While this may validate overall model appropriateness, modeling error is independent of sampling error, therefore, a more in-depth analysis of parameter estimates is warranted.

Prior to generalizing overall sample findings to the population, one must further analyze the potential for sampling error. One simple way to assess sampling error is look at the actual sample size used in the analysis by conducting power analysis, as N increases, discrepancies of estimates may decrease. Also, model complexity may influence overall discrepancies, for as model complexity increases, discrepancy of approximation decreases. Whereby, adding parameters may decrease the sampling discrepancy, each added parameter may also capitalize on idiosyncrasies in the correct sample and the discrepancy of estimates may increase or, decrease depending on the original sample size. Similarly, when evaluating discrepancy of approximation (model error, one would hope to minimize overall discrepancy, thus indicating a good model.

An hypothesis test (SAS program) can be of assistance here. If the hypothesis fails, one would normally reject the null hypothesis, however when large sample sizes preside, a significant chi square may be found indicating a larger discrepancy, possibly resulting in a Type 1 error. For this model (N=129), probability of a Type 1 error was not an issue. However, if this design is replicated, the results may be different and require an additional (SAS) power analysis. As an alternate test, one would attempt to get an estimate of (Fs), model error, or complexity; if F=0, a perfect fit would be indicated.

Discrepancy of Approximation

For any set of models one prefers the model generating the smallest confidence interval (CI) and RMSEA, in addition to the chi square index of model fit. If, RMSEA estimate is lower than .05, a good model fit may be indicated: The Mcorr of this study rendered a RMSEA-.064. However, if this were not the case in model fit, a strategy for improving the model fit would be to add parameters as Fs is dependent upon DF/N-1.

Overall discrepancy could be verified by cross validation, such as evaluating the expected cross-validation Index (ECVI) generated by the computer analysis (Cudeck & Browne, 1983). When comparing models, the smallest ECVI would be indicative of the better fitting model.

Upon inspection of the Lambda Y and Lamda X factor loading, all parameters have t values > 2.00, therefore are significant. However, Beta t-values of .09 and subsequent Gamma t-values do not render significant t values. In such situations, the parameters may be fixed at 0, thereby increasing parsimonious fit for the model by eliminating the free parameter. However, this defeats the purpose of a structural model and does not add to variance included in the total model.

Further inspection of the modification indexes (MI) did not render values > 8, therefore were not used for additional analysis or model setting. The largest MI value was that of Th_ABT at 3.66. The largest standardized residual was 2.90, which warrants further inspection as a value > 2.00, for WT-APR and TH_ABT may be suspect. One might delete these variables, identify these indicators as inappropriate representations of INTENTIONs (ETA1), or improve measurement methods. In one exploratory analysis, ETA was entirely deleted from the model, but an improper model solution was found so that model was not included in this final report.

Squared multiple correlations

The squared multiple coefficients (SMCs) of the measured variables represent the proportion of variance in the measured indicators that is accounted for by the latent variables. For the plausible model, SMCs for the latent variables are .95 for intentions and .97 for progress. The values represent the proportion of variance in the dependent latent variables (Y) accounted for by the independent latent variables (X) in the equation (Attitude, LOC, WS). The SMC's for the Y variables or indicators were somewhat consistent, but low across Y variables ranging from 20, .15, .13, .13 .16, and .26. The values are low relative to variance accounted for Y portion of the measurement model. Similar findings occurred for the nine independent variables (X) ranging from .16, .21 , .20, .22, .18, .21, .16., 08, and .07. Thus, the X variables do not appear to represent strong relationships between latent variables and measured variables. The most significant structural parameter in the Mcorr, based on t-values was the parameter indicating the influence of Dissonance (KSI2) on Progress (ETA2) with a coefficient of .83 or SMC of ,69. Although low SMC's were found, no negative values for SMC were apparent. If that were the case, setting SMCs to 0 upon model re-specification, may improve the model (Rindskopf, 1984). Because the SMC's representing parameter estimates are low, but a good fit was indicated for the entire model, one might simply defer to the overall indices of fit when reporting results. Total SMCs contributing to variance accounted for this model yielded a total index of 4.41. The coefficient of determination (COD) would represent the strength of relationships among variables. Ideally, one would want the COD close to 1 indicative of perfect strength in relationship. The COD was not computed in this LISREL 8 analysis.

Overall, this SEM model was theoretically driven based on concepts of the school psychologist's role in dealing with CSA issues. The hypothesized model proposing attitude, locus of control, and work setting variables rendered a highly plausible model based on established fit statistics. Both influential and subjective indices of fit fell within acceptable ranges of values. Future research should consider the minimum sample size required to assess power and desired p values. An increased sample size may improve stability of parameter estimates and, perhaps, increase variance accounted for within the solution. Additionally, a larger sample group of the population may improve generalizability of findings. And finally, crossvalidation of a second sample may validate consistency of the hypothesized model. Invariance across groups may also be shown if parameters are constrained across groups and chi square index of fit is computed within acceptable ranges.

Limitations

Attitude, by nature of the dynamic qualities of human behavior is subject to change given different contextual and intrinsic situations. Therefore, response consistency obtained from this sample may change over time or if questioned under different contextual settings. Similarly, the items of each survey may be interpreted differently across varying samples. Socially acceptable responding of participants may also skew response results obtained form this sample, particularly since school psychologists are legally mandated to report child abuse and, therefore, feel compelled to respond favorably to involvement in CSA issues, yet in actuality, may be reticent to do so in the schools. Similarly, because a homogenous group of school psychologists was sampled, the findings here should not be generalized to other populations. Perhaps, an individual interview on the topic of CSA would yield different information than can be obtained by mailed, self-report surveys. An 800 telephone number was provided to address any questions that arise.

However, in the event that an individual subject has had a negative experience with CSA, this questionnaire could elicit emotional reactions. Desensitization of subjects, should this event occur, would be difficult via

telephone, particularly given the range of geographic locations of participants. Due to the wide geographic locations of the sample, direct contact for follow-up interviews to gather information on non-respondents was prohibitive, which leaves unanswered questions. For instance, did potential participants not respond due to extreme distaste for the topic of CSA, did they not view the topic as relevant to their individual positions, or did they simply not want to respond or not hold a definitive view of the topic? Similarly, did the actual respondents simply comply positively to the items due to the knowledge of legal and ethic necessity to do so? Given these unknowns, evaluating respondent bias was not possible. If, in fact, acquiescence, Pygmalion effect or other attitudinal biases contaminated responses, investigating its impact on the delivery of CSA services would be difficult. And finally, limitations in drawing inferences should be realized since this investigation concerns a hypothetical construct such as Attitude.

Summary and Conclusions

Attitude development is comprised of underlying abstract elements such as cognition, affect, values, and behaviors (Festinger, 1964; Rosenberg et al., 1969), which interrelate and become increasingly complex when emotionally laden issues such as CSA is investigated. Therefore, use of the SEM method of analysis to investigate latent variables is the most feasible multivariate method of conducting an in-depth examination of influencing factors that impact CSA service delivery in the schools. The above analyses rendered a plausible SEM model to examine the school psychologist's attitude toward CSA, defined as *role inhibition* versus *progressive pursuit* in terms of involvement in the delivery of CSA services. However, the need to investigate this matter further is documented throughout the literature by professionals (Batchelor, Dean, Gridley & Batchelor, 1990; Tharinger, Russian & Robinson, 1989).

The use of SEM can be instrumental in isolating unique influencing variables that serve as barriers to efficient delivery of CSA services to students in need. Future studies may employ larger sample groups which would strengthen generalizability of the findings. Comparative models investigating other contributing variables may provide insight into alternative influences. For instance, one might include measures of the school psychologist's self-efficacy, professional experience, or formal training concerning CSA. Similarly, because a multidisciplined approach to handling CSA cases is recommended, studies replicating the models included here may be examined using sample groups from other mental health disciplines working in the schools. For instance, sampling guidance counselors, social workers, and other supportive personnel may provide further insight into the enhancement of providing efficient and expedient services to sexually abused children.

Similarly, the same model estimation could be replicated to investigate the stability of the overall fit and parameter estimates. Invariance of this model across multi-disciplined groups would also prove to strengthen the hypothesis made here concerning influencing variables (Bollen, 1989; Byrne, 1989; Hayduck, 1987; Marcoulides & Schumacker, 1996). Current literature reviews support and encourage the much needed investigation of obstacles or barriers to providing professional services to students (Gilgun & Gordon, 1985; Slater & Gallagher, 1989; Yarber & Pavese, 1985). Johnson, Owens, Dewey and Eisenberg (1990) report that the professional's attitude strongly influences his or her behavior toward CSA, yet few studies examined attitudes in detail to identify influencing factors. Based on professional accounts of the increased incident rate of CSA, it would appear to be just a matter of time before the school psychologist is faced with a case of sex abuse, thus making the investigation of barriers to the delivery of that service a highly relevant educational issue.

References

Batchelor, E., Dean, R., Gridley, B., & Batchelor, B. (1990). Reports on child sexual abuse in the schools. Psychology In The Schools, 27, 131-138.

Bentler, P. M. (1990). Comparative fit indexes in structural models. Psychological Bulletin, 107, 238-246.

Bentler, P. M & Bonnett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. Psychological Bulletin, 88, 588-606.

Bollen, K. A. (1989). Structural equations with latent variables. New York: Wiley & Sons.

Bollen, K. A., & Long, S. E. (1993). Testing structural equation models. Newbury Park, CA: Sage Publications.

Broadhurst, D. (1986). Educators, schools, and child abuse. Paper presented at the meeting of the National Comittee for Prevention of Child Abuse Chicago, Ill.

Bross, D., Krugman, R., Lenher, M., Rosenberg, D., & Schmidt, B. D. (1988). The new child protection team handbook. New York: Garland.

Byers, J. (1990). Seminar Paper. The effects of child sex abuse on children, adolescents and adults (p. Eric Document Reproduction Service).

Byrne, B. M. (1988). Multigroup comparisons and the assumption of equivalent construct validity across groups: Methodological and substantive issues. Multivariate Behavioral Research.

Byrne, B. M. (1989). A primer of LISREL. Ottawa-Canada: Springer-Verlag.

Cudeck, R., & Browne, M. W. (1983). Cross-validation of covariance structures. Multivariate Behavioral Research, 18, 147-167.

Ferrara, F. F. (1996). Construct validity of the child sex abuse attitude scale (CSAAS) through confirmatory factor analysis. Unpublished doctoral dissertation, University of South Florida, Tampa, FL. Dissertation Abstract International, 57-03, B2214.

Ferrara F. Felicia. (1998). Validation of the Child Sex Abuse Attitude Scale (CSAAS) through confirmatory factor analysis. Journal of Structural Equation Modeling, in press.

Festinger, L. (1964). Conflict, Decision and Dissonance. Stanford, CA: Stanford University Press.

Gilgun, J. F., & Gordon, S. (1985). Sex education and the prevention of child sexual abuse. Journal of Sex Education and Therapy, 11(1), 46-52.

Goldman, A. L. ((1991, Jan 12)). Citing sex classes, Bishop bars school leases. New York Times, 30.

Hall, J. K. (1990). Locus of control as a moderator of the relationship between perceived role ambiguity and reported work strains. Unpublished doctoral dissertation, University of South Florida.

Hayduk, L. A. (1987). Structural equation modeling with LISREL. Baltimore, MD: John Hopkins University.

Hazzzard, A., & Rupp, G. (1983). Training teachers to identify and intervene with abuse children. Paper presented at the Annual Convention of the American Psychological Association .

Hitchcock, R. A., & Young, D. (1986). Prevention of sexual assault: A curriculum for elementary school counselors. Elementary School Guidance and Counseling, 20, 201-207.

Johnson, P. A., Owens, G. R., Dewey, M. E., & Eisenberg, N. E. (1990). Professionals attributes of censure in father daughter incest. The International Journal, 14, 419-428.

Joreskog, K. F., & Sorbom, D. (1986). LISREL7: A guide to the program and applications. Chicago, Ill: SPSS, Inc.

Kleemier, C. e. al. (1988). Child sex abuse prevention: Evaluation of a teacher training model. The International Journal, 12, 555-561.

Krivascka, J. J. (1988).

Marcoulides, G. A., & Schumacker, R. E. E. (1996). Advanced structural equation modeling: Issues and techniques. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Marsh, H. W., & Richards, G. E. (1987). The multidimensionality of the Rotter I-E scale and its higher-order structure: An application of confirmatory factor analysis. Multivariate Behavioral Research, 22, 153-174.

Morris, C. W. (1990). Psychology: An introduction. New Jersey: Prentice Hall.

Myers, Jones, Thomas, & Semlar. (1976). Kansas:

National Resource Center on Child Sexual Abuse. (1994). Statistics on Child Sexual Abuse. Huntsville, AL.

O'Day, & Shores. (1983). Preventing sexual abuse of persons with disabilities: A curriculum for hearing impaired physically disabled, blind and mentally retarded students.

Repucci, N. P., & Herman, J. (1991). Sexuality education and child sex abuse prevention programs in the schools. Review Research in Education, 17, 127-166.

Rindskopf, D. (1984). Using phantom and imaginary latent variables to parameterize constraints in linear structural models. Psychometrika, 48, 73-83.

Rosenberg, M., Hovland, C., & McQuire, N. (1969). Attitude, organization and change: An analysis of consistency among attitude components. New Haven, CT.: Yale University Press.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 80(1(Whole, No.609)), 1-28.

Rucker, N. H., & King, D. C. (1980). Reactions to Leadership Style as a Function of Locus of Control and Ascendancy of Subordinates. California: Center for Consumer Research.

Saris, W. E., Satorra, A., & Sorbom, D. (1987). The detection and correction of specification errors in structural equation models. In Ed. C.C. Clogg Sociological methodology1987 . New York: Jossey-Bass Publisher.

Slater, B., & Gallagher, M. (18). Outside the realm of psychotherapy: Consultation for the interventions with sexualized children. School Psychology Review, (401-411).

Spector, P. (1988). Development of the Work Locus of Control Scale. Journal of Occupational Psychology, 61, 335-340.

Stanton, J. E. (1982). Modification of locus of control: Using relaxation, suggestion & imagery techniques in the schools. Contemporary Educational Psychology, 7, 190-194.

Suedfield, P. Ed. (1971). Attitude change: The competing views. Chicago, IL: Aldine Atherton, Inc.

Tharinger, D., Krivacska, J., McDonough, M., Jamison, L., Vincent, F., & Hedlund, A. (1988). Prevention of child sex abuse: An analysis of issues. School Psychology Review, 17, 614-634.

Tharinger, D., Russian, T., & Robinson, P. (1989). School Psychologist's involvement in the response to child sexual abuse. School Psychology Review, 18, 389-399.

Vevier, R., & Tharinger, D. (1986). Child sex abuse: A review and intervention framework for the school psychologist. Journal of School Psychology, 24, 293-311.

Walkey, F. H. (1979). Internal control, powerful others, and chance: A confirmation of Levenson's factor structure. Journal of Personality Assessment, 43, 532-535.

Wickland, R., & Brehm, J. (1976). Perspectives on cognitive dissonance. Mahwah, NJ: Lawrence Erlbaum Publishers.

Yarber, R., & Pavese (1985). School personnel estimates of community support for sex education. Journal of Sex Education and Therapy, 11, 40-42.

****

Reprints of this document can be obtained by contacting the author at ferrara@cecconsultants.com or visiting the web page at www.cecconstultants.com and then e-mailing from the web sight.

Table 1

Summary of Fit Indexes for Four Comparative SEM Models

Models	χ^2	df	$\Delta\chi^2$	Δdf	χ^2/df	RMSEA	NNFI	ECVI	RMR	GFI	AGFI	NCLS	CLS
Mcor	88.90	82	----	---	1.08	.026	.96	1.29	.064	.92	.88	.883	.116
Mst8	88.90	82	---	---	1.08	.026	.96	1.29	.064	.92	.88	---	---
Malt	88.62	78	.38	-4	1.13	.033	.94	1.35	.13	.92	.87	---	---
Mnull	137.09	36	48.	46	3.80	.033	.33	2.38	.14	.83	.44	---	---

BEST COPY AVAILABLE

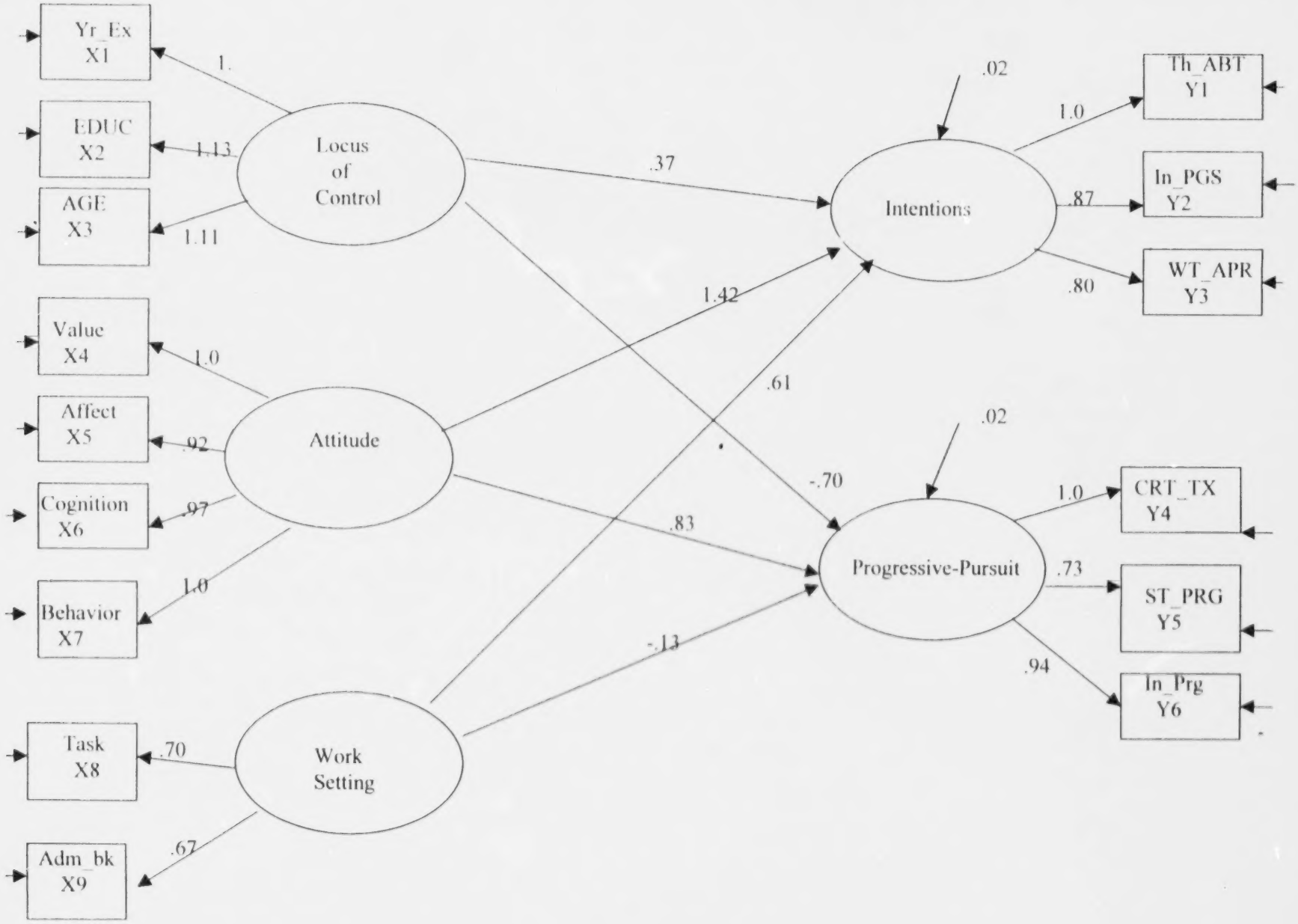

Figure 1. Plausible model- 3 KSIs directly influence 2 ETAs.